CLAIMS

1. Sighting device for examining the eye of a subject, comprising at least one moving target (CA, CB) having a programmable shape or trajectory, said target being displayed on viewing means and visible by at least one eye of said subject during the examination period.

2. Device according to claim 1, characterized in that it also comprises means for moving the target(s) so as to alternate fixation intervals on a given position with intervals termed rest on one or more other positions.

3. Device according to claim 2, characterized in that it also comprises means for adjusting the duration of the fixation intervals.

4. Device according to claim 3, characterized in that it also comprises means for adjusting the diversity of the rest positions.

5. Device according to one of claims 3 or 4, characterized in that it also comprises means for adjusting the duration of the rest positions.

6. Device according to one of claims 3 to 5, characterized in that it also comprises means for controlling a continuous movement of a moving target.

7. Sighting method for an examination of a subject's eye, implemented in a device according to one of the preceding claims, comprising a display on the viewing means, during the examination period, of at least one moving target (CA, CB) having a programmable shape and trajectory and visible by at least one eye of said subject.

8. Method according to claim 7, characterized in that it also comprises a movement of the target(s) so as to alternate fixation intervals on a given position with intervals termed rest on one or more other positions.

9. Method according to claim 8, characterized in that it also comprises an adjustment of the duration of the fixation intervals.

10. Method according to one of claims 8 or 9, characterized in that it also comprises an adjustment of the diversity of the rest positions.

11. Method according to claim 7, characterized in that it also comprises a control of a continuous movement of a moving target.

12. Method according to one of claims 1 to 11, characterized in that it also comprises a tracking of the movements of the eye to be examined.

13. Method according to one of claims 1 to 12, characterized in that the tracking of the movements of the eye to be examined is carried out by imaging using a non-visible spectrum.

14. System for examining the eye by *in vivo* tomography, comprising:
- a Michelson interferometer, producing a full field optical coherence tomography OCT set up,
- adaptive optical means, arranged between the interferometer and an eye to be examined, producing a correction of the wavefronts originating from the eye as well as those reaching the eye, and
- means of detection, arranged downstream of the interferometer, capable without synchronous modulation or detection of carrying out the interferometric measurement according to the OCT principle,

characterized in that it also comprises a sighting device comprising at least one moving target, having a programmable shape and trajectory, said target being displayed on viewing means and visible from at least one of the eyes of said patient during the examination period.

15. System according to claim 14, characterized in that it comprises means (IRIS) of tracking movements of the eye to be examined (OEX), collaborating with the tomography device.

16. System according to one of claims 14 or 15, characterized in that it comprises means to enable the image of the target to reach both eyes (OV1, OEX) of the subject to be examined.

17. System according to one of claims 14 to 16, characterized in that it comprises means to enable the image of the target to reach the unexamined eye of the subject selectively from one side (OV1) or from the other side (OV2) of the examined eye (OEX).

MODIFIED CLAIMS FILED ACCORDING TO ART. 19.1

CLAIMS

1. Sighting device for an examination by *in vivo* tomography of the eye of a subject, comprising at least one moving target (CA, CB) having a programmable shape or trajectory, said target being displayed on viewing means and visible by at least one eye of said subject during the examination period.

2. Device according to claim 1, characterized in that it also comprises means to move the target(s) so as to alternate fixation intervals on a given position with intervals termed rest on one or more other positions.

3. Device according to claim 2, characterized in that it also comprises means of adjusting the duration of the fixation intervals.

4. Device according to claim 3, characterized in that it also comprises means of adjusting the diversity of the rest positions.

5. Device according to one of claims 3 or 4, characterized in that it also comprises means of adjusting the duration of the rest positions.

6. Device according to one of claims 3 to 5, characterized in that it also comprises means of controlling a continuous movement of a moving target.

7. Sighting method for an examination by *in vivo* tomography of a subject's eye, implemented in a device according to one of the preceding claims, comprising a display on the viewing means, during the examination period, of at least one moving target (CA, CB) having a programmable shape or a programmable trajectory and visible by at least one eye of said subject.

8. Method according to claim 7, characterized in that it also comprises a movement of the target(s) so as to alternate fixation intervals on a given position with intervals termed rest on one or more other positions.

9. Method according to claim 8, characterized in that it also comprises an adjustment of the duration of the fixation intervals.

10. Method according to one of claims 8 or 9, characterized in that it also comprises an adjustment of the diversity of the rest positions.

11. Method according to claim 7, characterized in that it also comprises a control of a continuous movement of a moving target.

12. Method according to one of claims 1 to 11, characterized in that it also comprises a tracking of the movements of the eye to be examined.

13. Method according to one of claims 1 to 12, characterized in that the tracking of the movements of the eye to be examined is carried out by imaging using a non-visible spectrum.

14. System for examining the eye by *in vivo* tomography, comprising a tomography device including:
- a Michelson interferometer, producing a full field optical coherence tomography OCT setup,
- adaptive optical means, arranged between the interferometer and an eye to be examined, producing a correction of the wavefronts originating from the eye as well as those reaching the eye, and
- means of detection, arranged downstream of the interferometer, capable of carrying out, without synchronous modulation or detection, the interferometric measurement according to the OCT principle,
characterized in that it also comprises a sighting device comprising at least one moving target, having a programmable shape or a programmable trajectory, said target being displayed on viewing means and visible from at least one of the eyes of said patient during the examination period.

15. System according to claim 14, characterised in that the sighting device and the tomography device collaborate by using an *a priori* knowledge of the

trajectory or of the shape of the target to readjust the images of the eye as a function of said trajectory.

16. System according to one of claims 14 or 15, characterized in that it comprises means (IRIS) of tracking movements of the eye to be examined (OEX), collaborating with the tomography device.

17. System according to one of claims 14 to 16, characterized in that it comprises means to enable the image of the target to reach both eyes (OV1, OEX) of the subject to be examined.

18. System according to one of claims 14 to 17, characterized in that it comprises means to enable the image of the target to reach the unexamined eye of the target selectively from one side (OV1) or from the other side (OV2) of the examined eye (OEX).